

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 21. Cancelled

22. (currently amended) A method of promoting the healing of a wound disposed in soft tissue and having a physical extent, comprising applying electrical stimulation utilizing three or more electrodes, as a function of electrical impedance measurement.

23. (original) The method of claim 22, where the electrical stimulation is an AC sine wave with about 250 microsecond pulse width and current of about -10 ma when the impedance is between about 3.7 to about 4.1 ohms per cm of tissue, and the electrical stimulation is an AC sine wave with about 250 microsecond pulse width and current of about -5 ma when the impedance is between about 4.8 and about 5.1 ohms per cm of tissue.

24. (currently amended) A method of promoting the healing of a wound disposed in soft tissue and having a physical extent and phase of healing, comprising determining the phase of healing and applying electrical stimulation utilizing three or more electrodes, as a function of the phase of healing.

25. (original) The method of claim 24, the physical extent comprising a plurality of wound areas, further comprising determining the phase of healing in each of the plurality of wound areas, and applying electrical stimulation in each of the wound areas as a function of the phase of healing of that wound area.

26. (original) The method of claim 24, where the electrical stimulation comprises a sine wave having between about 220 microsecond and about 250 microsecond pulse width.

27. (original) The method of claim 24, where the electrical stimulation comprises a sine wave having between 100 microsecond and 1000 microsecond pulse width.

28. (currently amended) A computer readable medium containing program instructions sufficient to cause a user computer to operate control circuitry to determine the phase of healing of a wound disposed in soft tissue and apply electrical stimulation utilizing three or more electrodes, as a function of the phase of healing.

29. (original) A system for promoting the healing of a wound disposed in soft tissue and having a physical extent and phase of healing, comprising:

a user computer system including computer readable memory,

three or more electrodes;

control circuitry connected to the three or more electrodes and the user computer to control the application of electrical current through the electrodes, the control circuitry capable of conducting an electrical current through the three or more electrodes such that one electrode can function as a current source and one or more of the remaining electrodes can function as a current sink, and

measuring an electrical impedance value between the electrode functioning as the current source and the one or more electrodes functioning as current sinks; and

a computer readable medium containing program instructions sufficient to cause the user computer to operate the control circuitry to determine the phase of healing of a wound disposed in soft tissue and apply electrical stimulation as a function of the phase of healing.

30. (original) The system of claim 29, the physical extent comprising a plurality of wound areas, the program instructions further sufficient to cause the user computer to operate the control circuitry to determine the phase of healing in each of the plurality of wound areas, and apply electrical stimulation in each of the wound areas as a function of the phase of healing of that wound area.

31. (original) The system of claim 29, where the electrical stimulation comprises a sine wave having between about 220 microsecond and about 250 microsecond pulse width.

32. (original) The system of claim 29, where the electrical stimulation comprises a sine wave having between 100 microsecond and 1000 microsecond pulse width.